

REMARKS

Claims 1, 4-16 and 33-35 were pending. New claims 36-42 are added. New claim 36 is supported, e.g., by original claim 3. New claims 37 and 38 are supported by the specification at, e.g., page 22. New claims 39-42 are supported by the specification at, e.g., page 10, lines 6-17. Claims 1 and 13 have been amended. The amendments to claim 1 are supported by the specification and claims as originally filed, including at page 22, lines 1-10.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Rejection of Claims 1-16 under 35 U.S.C. 102

Claims 1-16¹ are rejected under 35 U.S.C. 102 as allegedly anticipated by Herrman et al. (WO 97/43482). The Examiner contends that Applicants' arguments that Herrman et al. do not teach the claimed invention are not found persuasive. In particular, the Examiner states that (1) by use of the open transitional phrase "comprises", further processing may be encompassed by the claims and (2) the fact that Applicants have recognized another advantage which would inherently exit and flow naturally from the Herrman et al. cannot be the basis for patentability.

This rejection is respectfully traversed. Applicants are not distinguishing Herrman et al. on the basis that Herrman et al. requires an additional process step (which could according to the Examiner be encompassed by Applicants' use of the transitional phrase "comprising) or that Applicants have found an advantage not recognized in the Herrman et al. process. Rather, Applicants are distinguishing Herrman et al. on the basis that Herrman et al. does not teach the claimed process and therefore, Herrman et al. does not anticipate the claimed invention.

In particular, Herrman et al. does not teach a process for making a an enzyme containing granule in a mixer granulation process including the step of **"adding less than 75 of 100 parts by weight of a particulate component having a mean size of more than 40 μ m in the longest dimension to more than 25 of 100 parts by weight of an enzyme or enzyme and granulating agent."** As disclosed in Herrman et al., the particulate component (organic flour) is added in the process an amount of 75 to 99.9 parts by weight and the enzyme or enzyme mixture is added in an amount of 0.1 to 25 parts by weight. See Herrman et al. page 3, lines 1-9, lines 29-31, page 4, lines 1-6, claim 1; see *a/so* the Examiner's summary of Herrman

¹ It is noted that the rejection addresses claims 1-16. However, the pending claims were claims 1, 4-16 and 33-35.

et al. in Paper No. 8. Thus, Hermann et al. does not teach the claimed process as Herrman et al. teaches the addition of a different ratio of particulate component to enzyme/granulating agent then is recited in the present invention.

Herrman et al. also does not teach that the particulate component used in the mixer granulation process should have **"a mean size of more than 40 μm in the longest dimension."** In Paper No. 8, the Examiner alleged that "[c]ommon particle size ranges and percentage distributions within flours were well-known and documented throughout the art, and such flours were known to have "a mean size of more than 40 μm ." Applicants respectfully submit that artisans typically used finely milled particulate components of less than 40 μm , as illustrated in Example 1 of EP 304332 and in WO 98/54980, disclosing mean particle sizes of 390 μm and 480 μm , respectively. Nevertheless, even assuming that particulate component having a mean size of more than 40 μm in the longest dimension was known in the art, Herrman et al. does not teach an artisan to employ particulate components having the mean size recited by the claims.

Although now forming a limitation of new dependent claim 36 instead of claim 1, Herrman et al. also does not teach a method of manufacturing an enzyme-containing granule **"wherein the particles of the particulate component have a span value of less than 2.5."** In accordance with the present invention, further control of the size of the finished granule may be obtained by using a particulate component having a narrow particle size distribution having a SPAN value of less than 2.5. Hermann et al. does mention anything about the importance of the SPAN value, let alone, the importance of a SPAN value of less than 2.5. Furthermore, the particles of the finished product in the examples of Herrman et al. are not "less than 2.5", and therefore the SPAN value is not inherent in Herrman et al.'s method.


Accordingly, Herrman et al. clearly does anticipate the claimed invention. Applicants therefore respectfully submit that the claims overcome this rejection under 35 U.S.C. 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

II. C nclusi n

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Examiner: Hendricks, K..

For: An Improved Process For Preparing An Enzyme Containing Granule

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Sir:

Below is a marked-up version of the amendments made in the accompanying amendment.

IN THE CLAIMS:

Claims 1 and 13 have been amended as follows:

1. (Twice Amended.) A process for manufacture of a dry enzyme-containing granule, said method comprising: [mixing at least one enzyme and a particulate component in a mixer granulation process to form a granule, wherein the particulate component the particulate component has a SPAN value of less than 2.5 and the particles of the particulate component have a mean size of more than 40 μ m in their longest dimension, wherein the particulate component comprises less than 75 % by weight of the finished granule]

adding less than 75 of 100 parts by weight of a particulate component having a mean size of more than 40 μ m in the longest dimension to more than 25 of 100 parts by weight of an enzyme or an enzyme and granulating agent; and *new from claim 13* ←

mixing said particulate component with said enzyme or with said enzyme and granulating agent in a mixer granulation process to form a granule.

4. (Unchanged.) The process of claim 1, wherein the particulate component is an inorganic compound selected from the group consisting of salts, minerals, clays and mixtures thereof.

5. (Unchanged.) The process of claim 4 wherein the salt is selected from the group consisting of alkali- and earth alkali salts of phosphate, sulphate, chloride and carbonate.

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6. (Unchanged.) The process of claim 4 wherein the mineral is selected from the group consisting of talcs, zeolites, and silicates.
7. (Unchanged.) The process of claim 4 wherein the clay is selected from the group consisting of kaolin and bentonite.
8. (Unchanged.) The process of claim 1, wherein the particulate component is organic.
9. (Unchanged.) The process of claim 8, wherein the particulate component is a vegetable flour.
10. (Unchanged.) The process of claim 9, wherein the vegetable is a cereal grain, a legume, a fruit or a nut or a combination thereof.
11. (Unchanged.) The process of claim 10, wherein the cereal grain is selected from the group consisting of wheat, rye, barley, oats, rice, maize and sorghum.
12. (Unchanged.) The process of claim 8, wherein the particulate component has been treated with dry superheated steam.
13. (Amended.) The process of claim 1, wherein the [granule further comprises a] granulating agent is selected from the group consisting of fiber materials, binders, fillers, liquid agents, enzyme stabilizers, suspension agents, crosslinking agents, mediators, solvents and combinations of any of the foregoing.
14. (Unchanged.) The process of any preceding claim, wherein the enzyme is selected from the group consisting of oxidoreductases, transferases, hydrolases, lyases, isomerases, and ligases.
15. (Unchanged.) The process of claim 1, wherein the mixer granulation process is a high shear mixing process.
16. (Unchanged.) The process of claim 1, further comprising a step of coating the granule.

33. (Unchanged.) The process of claim 1, wherein the particles of the particulate component have a span value of less than 2.0.

34. (Unchanged.) The process of claim 1, wherein the particles of the particulate component have a span value of less than 1.5.

35. (Unchanged.) The process of claim 1, wherein the particles of the particulate component have a span value of less than 1.0.